

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, NOVEMBER 13, 1875.

ORIGINAL LECTURES.

TWO CLINICAL LECTURES

ON THE CAUSES, THE PREVENTION, AND THE CURE OF LACERATION OF THE PERINEUM.

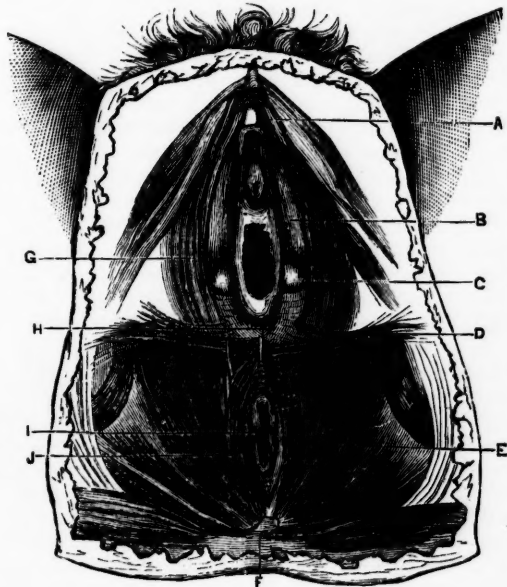
BY WILLIAM GOODELL, M.D.,

Clinical Professor of the Diseases of Women and Children in the University of Pennsylvania, etc.

LECTURE I.

GENTLEMEN,—I bespeak your earnest attention this morning, because I hope to teach you how to avoid one of the worst of the non-fatal lesions which can befall a woman in child-birth, and to show you a simple operation by which you can assuredly cure her.

FIG. 1.



Next to subinvolution of the womb, the laceration of the perineum is, perhaps, the most common lesion of labor; especially so among the poor, who are attended by midwives, medical students, or by recent graduates. From an examination of the inmates of an institution to which I am attached, I find that in this class of society complete laceration of the perineum takes place more often than once

in a hundred labors, while, of course, the proportion of bad rents not involving the sphincter ani is much larger than this. So common, indeed, is this lesion that, judging from the past experience of our clinic, I shall this winter have occasion several times to perform before you the operation for the restoration of the perineum. As an earnest of this, I now bring before you a woman who, in her first and only labor, met with the great mishap of having her perineum badly torn. Instead of a close and symmetrical contact of the labia majora, look at this irregular and gaping opening, extending from the clitoris to the lower verge of the anus. The perineum has disappeared, the upper segment of the anal ring is torn through; the rent extends up the rectum for at least an inch, and one great cloaca takes the place of the vulval and anal openings. For six years she has suffered from symptoms growing more and more distressing, until at last they have driven her to us for relief.

What the nature of these symptoms is you will best understand by consulting this diagram (Fig. 1), which is reduced from Savage's excellent plate. From it you see that the floor of the female pelvis is made up of a mass of muscles so interlaced that hardly one of them has a special property which is not in a measure shared by the others. Upon removing the skin and superficial fascia, we come, midway between the lower vulval commissure and the anus, to a highly elastic and dense white tendinous structure, called the perineal body (H). It seems to be made up by the fusion of several muscles which meet there. Thus, the external sphincter ani (J), which starts from the coccyx (F), surrounds the anus (I), and is inserted in the perineal body. So, on either side, does the transversus perinei (D). On the other hand, each sphincter vaginae (G), called also bulbo-cavernosus or compressor bulbi, arises below in the perineal body and sphincter ani, passes up around the vulval opening like a fleshy ring, and converges to meet its fellow over the dorsum of the clitoris (A). The property of this muscle is to pull down the rigid clitoris into contact with the male organ,

to squeeze out the contents of the vulvo-vaginal glands (C), and to compress the dorsal vein, and also the bulbs of the vagina (B), so as to obstruct mechanically the current of blood and produce a turgescence of all these erectile organs. The levator ani (E) is the next important and powerful muscle of this group. It arises from the ramus of the pubes and the spine of the ischium, and is inserted into the coccyx and the sides of the vagina and of the rectum. By these attachments, and by interlacements with the corresponding muscle on the opposite side, it and its fellow constitute the true constrictor of the vagina.

Now, without further comment, a mere glance at this diagram shows that the loss of every fibre at the point of fusion of these muscles entails a corresponding loss of power in the floor of the pelvis, and a consequent impairment of support to the reproductive organs. The sustaining power of the vaginal column depends upon the integrity of its perineal abutment. It is the tonic of the vaginal walls and the pelvic attachments of the uterus that mainly keep the nicely-poised womb in place. These, in a case of torn perineum, may not at once yield; but they will sooner or later; for air gains access to the womb, irritating and congesting it to such a degree that it will ultimately flex or prolapse from an acquired hypertrophy. The air thus sucked up into the vagina is very liable to escape audibly, constituting that very mortifying disorder which our Teutonic brethren call "garrulity of the vagina." The anterior wall of the vagina, being now unsupported, will descend, dragging with it the bladder. The greater the rent, the greater will be the dislocation of the pelvic organs, and the greater the evils entailed. Again, rents of this kind are attended with more or less impairment of the sexual functions. Thus, from the injury sustained by the perineal body, the vulva becomes enlarged, the vagina relaxed, the bulbs of the vagina but slightly compressed, and the sexual act blunted on the part of the male, and imperfectly responded to by the female. Partly from this lack of reciprocity, and partly from the necessarily shortened vagina, which rejects the semen as soon as ejaculated, the woman, like the patient before us, often remains barren. But should the rent traverse the whole peri-

neum and divide the anal sphincters, or extend through the recto-vaginal septum, then, in addition to the above train of evils, there will be an involuntary escape of flatus, and an incontinence of the fæces when at all liquid. The woman's clothing is soiled without warning; her person becomes repulsive to her husband, and her company undesired by her friends. Seclusion and mental anguish undermine her constitution. Few calamities can be more grievous than this one. To keep her bowels costive this woman takes a daily dose of opium. A young married lady, whose perineum I restored not very long ago, got into the same habit. But, however bound her bowels were, she would soil her linen whenever it thundered or she otherwise became nervous. Every two or three weeks she was obliged to take an aperient, and would then have to spend many hours on the commode,—seventeen hours on one occasion after taking a dose of castor-oil. In order to spare herself the mortification of breaking wind before others, this lady shunned the society of her friends, and secluded herself in her bedroom. She did not even join the family at their meals; she never went out until after dusk, and never dared to ride in a street-car. Altogether, she was in a sorry plight. Since, therefore, the urgency of the symptoms, and since, also, as you will shortly learn, the chances of a successful operation depend upon the condition of the sphincter ani, laceration of the perineum may, for all practical purposes, be divided into those which involve the sphincter and those which do not.

An ounce of prevention being worth a pound of cure, let us inquire into the causes of these lacerations, in order that being forewarned we may be forearmed against them.

These, without minute specification, may be summed up as follows. 1st, Rigidity, dryness, and congestion of the soft parts, as in first labors. 2d, Absolute or relative disproportion between the size of the head or of the shoulders, and that of the vulva. This also includes the presence of one forearm, or both, along with the shoulders. 3d, Every cause, whether moral, anatomical, or physiological, that precipitates the passage of the head through the soft parts,—as, for instance, violent straining efforts through great nervous excitement, a small head, a straight sacrum, or an overdose of

ergot. 4th, Faulty mechanism of labor, such as incomplete flexion or extension of the head; or an occiput rotating posteriorly. 5th, Keeping the limbs straight and in close contact at the moment of the birth of the head. 6th, Causes dependent on the physician, such as the use of the forceps, a faulty method of supporting the perineum, or meddling midwifery.

For cases of rigidity, or of disproportion, or of an undersized vulval opening, anæsthetics will be found of great service. They will also restore moisture to a dry and congested perineum, and curb uncontrollable expulsive pains.

Many lacerations are, in my opinion, owing to the common mistake of making so long continued and so firm a pressure on the perineum with the hand as to make it hot, dry, and unyielding, and also to prevent it from undergoing an equable dilatation. The portion thus compressed cannot take its share of the general tension, and the strain is thrown on the fourchette. Further, the pressure of the hand, by obstructing the free circulation of blood, impairs the vitality of the perineum. Bruised, congested, and benumbed, it is no longer a living tissue, capable of responding intelligently, so to speak, to the requirements of the occasion,—when to repel, when to solicit the advance of the head; and this nice point nature can very generally determine far better than the physician. Again, the word “support,” as applied to the perineum, is a misnomer. No “support,” in the ordinary acceptance of the word, is afforded to the perineum by direct pressure. If such a method ever accomplishes any good, it is by retarding the advance of the head; in other words, by supporting the head through the interposed perineum, and not by supporting the perineum itself. Why not then support the head by pressure directly applied to it, instead of through a medium which requires perfect freedom from all restraint in order to undergo the requisite and inevitable amount of dilatation? Finally, a majority of the advocates of “support” contend that it is most needed at the very moment of expulsion. But the woman, in the agony of the final throes, is very likely to jerk herself away from the hand of the accoucheur. Of course, then, the perineum, being abruptly released from the counter-pressure, is more liable to yield to a strain suddenly sustained for which its fibres are

unprepared. Obstetric teachers recognize this danger, and in vivid language caution the student against it.

Although I believe that in the vast majority of labors the perineum does best when let alone, yet cases do undoubtedly arise which demand intelligent assistance; nor can the line of demarcation be always drawn between natural and morbid conditions. Apart from a direct and retarding pressure upon the presenting part itself, the only manual aid that I permit myself occasionally to give is as follows. Insert one or two fingers of the right hand into the rectum, and hook up and pull forward the sphincter ani towards the pubes. The thumb of the same hand is meantime to be placed upon the foetal head, scrupulously avoiding all contact with the perineum. For this method I claim the following advantages: (a) By pulling up the sphincter ani towards the pubes not only is nature imitated, which always dilates the anal orifice, but the perineum is brought forward without direct pressure, and its dilatation is diffused over its whole surface, causing a corresponding relaxation of the strain on the posterior commissure in the line of its raphé. In addition, its muscular fibres are crowded up to, and consequently strengthen, the line of greatest tension; just as a prudent general hurries up reinforcements to the point of attack. (b) The same force which dilates the sphincter ani compels the occiput to hug the pubes and favors extension, especially if the fingers in the rectum are hooked over the prominences of the foetal face or over the chin. (c) This aid is not liable to sudden interruption from the movements of the woman. (d) The thumb of the same hand, together, if needful, with the fingers of the free hand, can by direct pressure upon the presenting part restrain its too rapid advance without exciting that reflex uterine action which is so frequently evoked by the irritation of contact with the perineum. (e) The circulation of blood remains free; the nerves are not benumbed by a double pressure, viz., by that of the hand and that of the presenting part, and the perineum, therefore, continues in its natural condition, that of a living, elastic, and sentient tissue.

Misdirected traction on the after-coming head, viz., too much in a downward direction as the head is about to emerge, causes the chin to hook over the perineum, and is

in a primipara very commonly followed by a bad rent. The lesson, therefore, taught is, at the close of a breech-labor needing help, to turn the woman on her back, to separate the knees, and to carry the child's body well up between them. But in the majority of cases of laceration in which the sphincters are involved, you will, I am sorry to say, find, as in our patient, that the labor has been an instrumental one. Yet there are cases in which the very use of the forceps protects the perineum. Thus, for instance, whenever the pubic arch is too narrow, the sacrum is too straight, or the head, in an occipito-anterior position, is over-flexed, and the vertex bears on the perineal centre and threatens to perforate it; whenever, in an occipito-posterior position, the head is too little flexed, the forceps is urgently needed. Why then is a forceps delivery so often the cause of injury to the perineum?

To this question there are many answers. In the first place, through a false delicacy, many physicians deliver the child under the sheet; they work in the dark, and cannot see what they are about. In difficult forceps-cases, the physician, worn out by direct traction, is very likely to brace his foot or even both feet on the edge of the bed. The traction thus exerted is uncontrollable, and when the head passes the narrow brim, which it does usually with a jerk, its momentum cannot be checked before it has torn its way through the perineum. Again, in cases requiring apparently but little traction, the use of the forceps will often occasion a slight tear in the vagina, which the passage of the shoulders prolongs through the perineum. Delivery by the forceps, even in skilful hands, will often produce laceration; for the head is liable to be brought down too quickly upon the unprepared soft parts; and it becomes a very nice point, indeed, to determine the exact moment when the head may be delivered with impunity. The cautious physician is liable to be caught, as it were, "on the centre." He sees or feels the perineum stretched out to a perilous thinness, and the fourchette almost cracking under the strain. In doubt whether the moment has come to raise the forceps-handles and turn out the head, or to depress them and thus restrain its advance, he wavers, and in a twinkling the fibres part. On the other hand, the impatient

physician is tempted to turn out the head before the parts are sufficiently dilated. Finally, what is not infrequent, at the last moment the physician's courage fails him, and he lowers the forceps-handles just as the head is about to emerge,—a course equally fatal to the integrity of the perineum. From too hurried a delivery, or from faulty traction, I have seen so many bad rents attending the use of this instrument, even in practised hands, that I cannot withhold the opinion that, in the majority of cases, nature can accomplish the final delivery of the head through the soft parts much better than the physician. My advice to you, therefore, is that, other things being equal, as soon as the perineum is well dilated you should remove the forceps, unless the blades are so firmly imbedded in the child's tissues that their withdrawal requires a force which might hasten the delivery of the head. This practice, if not so brilliant, you will, in the long run, find the safer.

Through sentiments of delicacy many lacerations of the perineum escape the notice of the physician. I have operated on several cases in which the woman has assured me that the discovery was not made until the bowels, after a purge, had proved uncontrollable. After the delivery of the placenta, you should, therefore, make it a rule to introduce the index-finger into the rectum and the thumb into the vagina. By this double touch you can estimate the thickness of the intervening flesh, and thus determine whether an extensive laceration has taken place. If a rent be discovered, decently inspect the parts. By daylight this examination can usually be made without the knowledge of the patient. When candle-light is needed, you may be compelled either to make some excuse or boldly to explain your object. Sometimes a formidable hemorrhage takes place from the perineal wound, and yet you will not discover its source unless you have all your wits about you. You will naturally infer that it comes from the womb, and will, accordingly, mistreat it by resorting to the usual remedies for post-partum hemorrhage. Make it, therefore, an inflexible rule to stretch open the vulva and visually examine the perineum whenever blood seems to escape from a firmly-contracted womb. Although labor is the common yet it is not the inviolable cause of these lacerations. Several

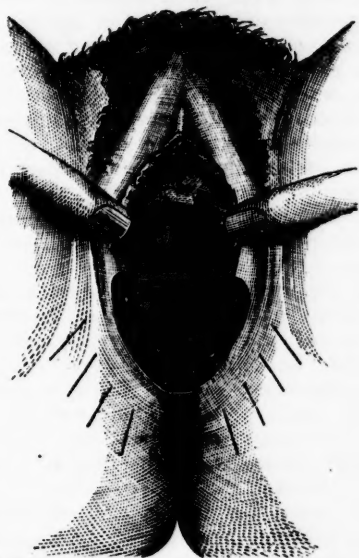
cases are on record which happened from the breaking of a cracked chamber-pot. Women have been gored by cattle in this portion of the body. In sliding down the sides of hay-stacks they have been impaled by the handle of a rake, of a hoe, or of some other implement. But, whatever the cause, the treatment is of course the same.

Since so large a share of a woman's health and happiness depends upon the integrity of her perineum, what should be your rule of action when she meets with this injury? Unless the rent is simply cutaneous, or very slight indeed, and not extending much beyond the fourchette, it should not be left to nature, for nature is here too capricious to be depended on. You must perform the primary, or immediate, operation,—that is to say, you must at once sew up the wound. Now, although this advice is sharply criticised by some very good authorities, I offer it to you with the greatest confidence of its soundness. The fears of septicæmia, entertained by some physicians, are purely hypothetical; for, although the suture-tracks form, in one sense, new foci of infection, yet they close up a raw surface, whose area is vastly larger than theirs. Should hemorrhage be present, the sutures will invariably check it. Clinical experience proves that a very large measure of success follows the immediate operation. Further, it is far more rational to take advantage of the necessary confinement in bed after delivery, and to close the wound at once, while its surface is raw and the maternal soft parts are comparatively numb and insensible, than to postpone the operation to a time when the woman shall be nursing, when the cicatrized flaps shall demand quite a formidable and tedious operation for their denudation, and when a special confinement in bed for two weeks or more will be needed. Had the immediate operation been performed on this woman, she would, most likely, have been spared six years of suffering, and the tedious secondary operation which she has made up her mind to undergo next week.

My own method is, immediately after the delivery of the placenta, to pass deeply two, three, or more wire sutures, securing each one by merely twisting its ends together. Each suture is entered about an inch from the cutaneous margin of the wound, and is made to emerge on the mucous membrane of the vagina very

near to the edge of the raw surface. In addition, the first stitch must always be entered a little *below* the lower angle or fork of the wound, as represented in this diagram (Fig. 2). From the flow of bloody

FIG. 2.



This diagram represents the primary and the secondary operation when the sphincter ani is not injured.

lochia, and also from the deep congestion of the soft parts, induced by labor, you will not always find it easy to distinguish the raw surface from the mucous membrane. A good light will, therefore, be needed. It will also be well to stuff a sponge high up in the vagina, and temporarily cork up the lochia until the sutures are passed. This sponge you will, of course, remove before the sutures are twisted together. Some very extensive rents are merely skin-deep. I have seen one extend nearly half around the anus without involving the perineal body or a single fibre of the sphincter. Such a rent is merely cutaneous, and needs superficial sutures only. The *serres-fines* (Fig. 3) will here be found very useful. They must be placed about half an inch apart, and made to grasp to their fullest extent both edges of the wound. The first one should nip the skin just below the fork of the wound, and the

FIG. 3.



upper one just above its upper ends. If the edges of the rent are ragged, they should be trimmed off with the scissors. The *serres-fines* need not be kept on longer than forty-eight hours, and superficial sutures not longer than four or five days. When the laceration is not great, no other treatment is necessary excepting that of keeping the bowels bound for a week. But when the rent extends to or through the sphincter ani, or several deep sutures have been introduced, then the same precautions must be taken—viz., those of drawing off the urine, of binding the knees together, and of keeping the bowels costive, etc.—as I shall enjoin upon you when describing the after-treatment of the secondary operation.

While warmly advocating the primary operation, I have not found it on the whole so successful as the secondary. Thus, by the former I have had thus far two failures; by the latter none. This is said to be owing to the irregular surface of the rent, which prevents exact coaptation, and to the lochial discharges, which insinuate themselves between the surfaces of the wound and hinder union. My cases of failure were, however, dependent on other causes. In one, the woman, in a fit of mania, jumped out of bed to throw herself out of the window, and, of course, tore out the stitches. In the other—to which I was called by the attending physician—a violent diarrhoea set in on the third day, resulting in a recto-vaginal fistula, which I afterwards succeeded in closing. If upon removing the stitches you find no union, do not give up in despair, but try to promote healthy granulations by keeping the parts sweet and clean, and by placing in the fork of the wound a pledget of lint dipped in a solution of carbolic acid just strong enough to produce some tingling. By these means you may yet hope to save your credit by getting a bridge of granulations thrown over the anal gap, or more or less of very good union.

THE ACTION OF SALIVA (*The Doctor*, October 1, 1875).—M. Petit recently communicated to the Société de Pharmacie de Paris the result of his experiments upon saliva. He had found that one gramme of ptyalin had the power of dissolving from ten thousand to twenty thousand grammes of starch, producing a quantity of sugar varying between three thousand five hundred and seven thousand grammes.

ORIGINAL COMMUNICATIONS.

IMPROVED METHOD OF APPLYING THE MICRO-SPECTROSCOPIC TEST FOR BLOOD-STAINS.

Read before the Biological and Microscopical Section of the Academy of Natural Sciences, and recommended for publication in the Philadelphia Medical Times.

BY JOS. G. RICHARDSON, M.D.,

Microscopist to the Pennsylvania Hospital.

THE value to medical jurisprudence of spectrum analysis as employed for the detection of dried blood is so fully established by the researches of H. G. Sorby, Dr. W. B. Herrepath, Prof. A. S. Taylor, W. Preyer, and others, that it seems unnecessary for me to do more than state that the demonstration of the two dark bands in the green caused by scarlet cruorine (hæmoglobin), such as that contained in a recent blood-stain, enables experts to discriminate positively blood from other red coloring-matters soluble in water, whether mineral, vegetable, or animal, except an extract of the red feathers from the *Turacus albocristatus*, a bird found in the East Indies, and quite unknown on our continent of America.

Valuable as this test is thus seen to be, there are, unfortunately, several circumstances which limit its general application, as, for example, the changes in the constitution of hæmoglobin which occur from prolonged and frequently from comparatively brief exposure to the air, the modification of the absorption-bands caused by the presence of other substances, and last, but not least in many instances, the difficulty of procuring sufficient material for experiment. The insuperable nature of this latter obstacle will be at once appreciated when I mention that whilst the smallest amount which Sorby, Herrepath, and Taylor furnish directions for testing is a spot "one-tenth of an inch in diameter, or a quantity of the red coloring-matter amounting to no more than one-thousandth part of a grain," the important stain upon an axe-handle supposed to have been used in a murder I am now investigating probably weighed less than one three-thousandth of a grain when entire and uninjured.

The exigencies of this case have led me to seek out some other method than that of Mr. Sorby, who recommends that a solution of the suspected coloring-matter

should be made in a few drops of water contained in a cell composed of a piece of barometer-tube one-half an inch long and one-seventh of an inch in diameter. After numerous experiments, I contrived the following plan, which, on trial, proved satisfactory beyond my most sanguine expectations, enabling me to reveal the presence of blood in a quantity of matter only one one-hundredth the amount directed by Mr. Sorby.

Procure a glass slide, with a circular excavation in the middle, called by dealers a "concave centre," and moisten it around the edges of the cavity with a small drop of diluted glycerin. Thoroughly clean a thin glass cover about one-eighth of an inch larger than the excavation, lay it on white paper, and upon it place the tiniest visible fragment of a freshly-dried blood-clot (this fragment will weigh from one twenty-five-thousandth to one fifty-thousandth of a grain). Then with a cataract-needle deposit on the centre of the cover, near your blood-spot, a drop of glycerin about the size of this period (.), and with a dry needle gently push the blood to the brink of your microscopic pond, so that it may be just moistened by the fluid. Finally, invert your slide upon the thin glass cover in such a manner that the glycerined edges of the cavity in the former may adhere to the margins of the latter, and, turning the slide face upwards, transfer it to the stage of the microscope.

By this method, it is obvious, we obtain an extremely minute quantity of strong solution of hæmoglobin, whose point of greatest density (generally in the centre of the clot) is readily found under a one-fourth-inch objective, and tested by the adjustment of the spectroscopic eye-piece. After a little practice it will be found quite possible to modify the bands by the addition of sulphuret of sodium solution, as advised by Preyer.

In order to compare the delicacy of my plan with that of Mr. Sorby, a spot of blood one-tenth of an inch square may be made on a piece of white muslin, the threads of which average one hundred to the inch. When the stain is dry, ravel out one of the colored threads and cut off and test a fragment as long as the diameter of the filament, which will of course be a particle of stained fabric measuring one one-hundredth of the minimum-sized piece directed by Mr. Sorby. When the drop

of blood is old, a larger amount of material becomes requisite, and you may be obliged to moisten it with aqua ammoniæ, or with solution of tartrate of ammonium and protosulphate of iron; but in the criminal case referred to, *five months* after the murder, I am able from a scrap of stained muslin one-fiftieth of an inch square to obtain well-marked absorption-bands, easily discriminated from those produced by a solution of alkanet-root with alum and those caused by infusion of cochineal with the same salt.

In cases of this kind, where the greatest possible economy or even parsimony of material is needful, I would advise the following mode of procedure for proving and corroborating your proof of the existence of blood, so that its presence in a stain may be affirmed with *absolute certainty*.

From a suspected blood-spot upon metal, wood, leather, paper, muslin, or cloth, scrape with a fine sharp knife two or three or more minute particles of the reddish substance, causing them to fall near the middle of a large thin glass cover. Apply in close proximity to them a very small drop of three-fourths per cent. salt solution (see my paper "On the Value of High Powers in the Diagnosis of Blood-Stains," *American Journal of the Medical Sciences*, July, 1874, p. 109), bring the particles of supposed blood-clot to its edge, and proceed as I have already directed.

After thus examining the spectrum of the substance, you may generally, by rotating the stage, cause the colored fluid to partly drain away from the solid portion, wherein, under favorable circumstances, should the specimen be blood, the granular white blood-globules become plainly visible, as do also cell-walls of the red disks. Among the latter, if your mental and physical vision is keen enough, you can by the aid of a one-twenty-fifth immersion lens and an eye-piece micrometer measure a series of corpuscles accurately enough to discriminate human blood from that of an ox, pig, horse, or sheep.

Lastly, to make assurance triply sure, lift up the thin glass cover, wipe off the tiny drop of blood-solution and clot you have been examining on the folded edge of a thin piece of moistened blotting-paper, let fall upon it a little fresh tincture of guaiacum, and then a drop of ozonized ether, which will at once strike the deep-blue color of the guaiacum-test for blood.

In this way I have actually obtained these three kinds of evidence, to wit, that of spectrum analysis, that of the microscope, and that of chemical reaction, from one single particle of blood, which, judged by a definite standard (see "Handbook of Medical Microscopy," Phila., 1871, p. 283), certainly weighed less than one fifteen-thousandth, and probably less than one twenty-five-thousandth, of a grain.

Although Mr. Sorby claims to be able to demonstrate the absorption-bands from a single red blood-corpuscle, yet, as his instructions for detecting blood-stains, quoted above from the *Quarterly Journal of Science*, vol. ii. p. 198, are reiterated in his paper for the *Monthly Microscopical Journal* of July, 1871, p. 9, and seem to be those solely relied upon by Dr. Herepath, in the *Chemical News*, 1868, vol. i. p. 124, by Prof. L. S. Beale, in his "How to Work with the Microscope," London, 1868, p. 222, by Dr. W. B. Carpenter, in "The Microscope and its Revelations," 5th ed., London, 1875, p. 121, and by Prof. A. S. Taylor, in *Guy's Hospital Reports*, 1869, p. 274, and in his "Principles and Practice of Medical Jurisprudence," 1873, vol. i. p. 542, and since W. Preyer ("Die Blutkrystalle," Jena, 1871, S. 114) advises no more delicate mode than making and examining a solution in a watch-glass, I feel justified in offering my method to microscopists and medical jurists, as an improvement in the ordinary and facile application of spectrum analysis to blood-stains, by which this important test is rendered at least one hundred times as delicate as it has hitherto been when employed according to the directions of the highest British or Continental authorities, thus enabling us to detect a recent blood-spot on white muslin covering one ten-thousandth of a square inch and forming a speck scarcely visible to the unassisted eye.

1835 CHESTNUT ST., PHILADELPHIA.

TYPHOID FEVER—INFECTION FROM DRINKING-WATER.

BY CHARLES W. BROWN, M.D.

THE following is an account of an epidemic which ran through the State Normal School in this place, evidently due to the drinking-water.

In the early part of October, 1874, the first case occurred, in the person of a

young man, 19 years of age; one week later the second presented itself. They were characterized by the usual prodromes: lassitude for the first two or three days, impaired appetite, dull pain in the head and back, with vertigo and dizziness. The fever ran the usual course, with a marked rose-rash. Both cases convalesced in the fourth week, and made a rapid recovery.

On November 18, a large, muscular young man, 21 years of age, felt ill with a general feeling of dull pain in the back; but he did not take to his bed until the 23d, when I first saw him. Then his pain in the head was severe; the tongue was covered with a white creamy coat, and swollen, showing indentations of teeth. The conjunctiva was injected; skin dry. There was muttering delirium, and he continually grasped his head, crying, "It will burst." The pulse was 160, weak and threadlike; temperature $105\frac{3}{4}^{\circ}$; the abdomen tympanitic and tender on pressure.

The following is an extract from my note-book:

24th. 8 A.M.—Delirium becoming more boisterous; he is getting very troublesome to manage. Pulse 180; temperature $105\frac{1}{4}^{\circ}$; respiration 28; countenance cyanotic.

6 P.M.—Pulse 170, intermitting; temperature $105\frac{1}{2}^{\circ}$; profuse perspiration; rose-colored papular eruption over the whole body; frequent watery evacuations from the bowels, of an ochre color; has vomited large quantities of bile during the day.

25th. 8 A.M.—Very restless through the night. Pulse 174, intermitting; profuse clammy sweat; hands and feet cold. At ten o'clock he sprang from his bed, seized a chair, and struck his attendant on the head, felling him to the floor and inflicting an ugly scalp-wound; he was forced to get into bed by his fellow-students, and rapidly sank into a deep comatose state, with heavy stertorous breathing. The eruption became vesicular, and in a few hours pustular. At six o'clock, when he died, it had nearly all disappeared, there being but a few small pustules remaining.

On November 17, a young man on the same floor as the above case came to the infirmary, as did also his sister from the ladies' building. On the 18th four young men and two ladies were stricken down; on the 19th, another gentleman; the 23d, three ladies; the 24th, two gentlemen, and the 25th, one; 26th, a young man rooming in the ladies' building; 27th, a boy thirteen years old; 28th, Prof. A. in gentlemen's building, and one student; 29th, two ladies;

30th, three young men; and December 1, one lady. The above cases were all under my care in the school-buildings. Twenty-five other cases were treated at their homes; they were attacked by the disease before going home or soon after arriving. Of the twenty-eight cases treated in the school, three died,—the young man whose case is detailed above, another young man 18 years of age, and a girl of 14. The second young man died December 13, fourteen days after he took to his bed. This case seemed, up to the last two days, one of the mildest, except that the pulse was frequent,—from 110 to 160. There was no pain, and the appetite was good, but there was profuse perspiration from the commencement of the disease. The bowels were regular. Every day he said he felt well and wanted to sit up. On the twelfth night of the disease I was called, and found him suffering with intense pain in the head, face flushed, conjunctiva injected; the whole body covered with an eruption, the same as that of the former fatal case. He went into a state of collapse, and died with symptoms like those of the other young man. In this case there was no diarrhoea, tenderness over the bowels, or tympanitis.

The other fatal case was a girl, rather slender, and of poor health. She had suffered several times from pneumonia. She was taken sick on November 23, and died December 1, from double hypostatic pneumonia.

Of those who were treated at their homes, five died; they all terminated some time during the end of the fourth week, and all had hemorrhage from the bowels.

The following are the prominent symptoms in all of my cases that recovered. The disease commenced in most cases with a general feeling of malaise, weariness, pain in the limbs. The countenance was dull, appetite diminished; the tongue coated and swollen. In some cases there was vertigo with frontal headache; the patients were restless at night, disturbed by dreams. In some cases there was diarrhoea, with pain in the bowels and stomach. In most cases following the above symptoms came a distinct chill, or a sense of chilliness with rigors, followed by a rapid increase of temperature from 103° to $105\frac{3}{4}^{\circ}$, with dry skin. Later in the disease the pain in the head increased. In others severe pain in the back occurred

at the end of the first week; most of them became delirious. There were great thirst and dryness of tongue and throat; tongue tremulous when protruded. Epistaxis occurred in five cases. Diarrhoea was present in all cases in first week, and was troublesome throughout the disease. All the patients vomited large quantities of bile during the high temperature. In second week the headache disappeared; patients became drowsy, and affirmed that "they felt well."

The feces and urine were passed involuntarily in all cases. The rose-rash was distinct in all cases in the last of second and through the third week. In two cases there was profuse bloody expectoration, accompanying hypostatic congestion of the posterior lower lobes of the lungs. The fever did not tend to diminish or change into the usual subcontinuous or remittent form by increasing the morning remissions, until in the end of the fourth, and in some cases the fifth week.

In the latter stages the weakness was excessive, the patients lying relaxed in the lowest portion of the bed, in a condition of such profound stupor that they could scarcely be aroused by loud cries, or by pulling, pinching, etc., sufficiently to take their medicine and nourishment.

When the third case was attacked (the first young man who died), the water which he drank was suspected, and the pump-rod immediately withdrawn. As soon as it was evident that we were in the midst of such influences, the school, which consisted of thirty-four males and thirty-five females, was closed; all were compelled to leave the buildings as soon as attendants could be procured to take care of their school-mates; but at this time many who lived long distances from the school began to feel the effects of the disease and were compelled to remain.

The two school-buildings are constructed of brick, and are located on the side of the hill, one hundred and forty feet above the level of the river.

The water-supply for the last ten years has been from an artesian well one hundred and forty feet deep,—one hundred feet being through solid rock,—the water being pumped by an engine into the buildings. About forty feet back and east of the gentlemen's building was a surface-well twenty feet deep; forty feet southwest of this well was a large privy-vault, which has

been used for twelve years; this was emptied by a sewer that discharged a long distance west of the buildings, and was frequently cleansed with water. Another drain extended from near the surface-well to the vault-drain, a few feet below the vault, to carry surface-water from around the well. This surface-well was used for all purposes up to the time the artesian well was ready for use, ten years ago. Since that time many of the students preferred the water from the shallow well.

A sample of water from each well was sent to Prof. Latimer, of Rochester University, to be tested. (Meantime, all water that was used about the sick and for all purposes was drawn from wells in town.)

The following is given by Prof. Latimer:

"The sample A (from artesian well) contains but a small quantity of mineral matter, chiefly carbonate of lime.

"The sample B (from surface-well) contains little mineral matter, mostly carbonate of lime; but abounds in organic matter. It literally swarms with fungoid organisms, and also contains very many animalculæ, besides much *débris* of both these classes of organisms in various stages of decomposition. Chemical tests show the most positive evidence of sewage-contamination in large degree. In short, I have rarely if ever examined a water which, on chemical and microscopical evidence alone, I should consider so dangerous."

The shallow well was abandoned and filled up. The vault was emptied of its contents, and all the adjoining soil, which was saturated, excavated, and the place thoroughly disinfected and filled up with fresh earth. The buildings were thoroughly cleansed and disinfected throughout, and the usual good health of the school has continued since its reopening, January 6. There was never a case of typhoid fever in the school since its foundation until the above epidemic. A German who worked around the buildings during the fall and drank the water from the infected well, but who resided across the river, took the fever about the same time the students came down; the disease resembled those in the school, and ran about the same course. None of the hired help had the fever, except a young man who was in the habit of drinking the infected water; the others all drank water from the deep well.

From the above evidence there is no doubt in my mind that the sewage from

the privy-vault, after a number of years, had found its way through the soil, and, by backing up the drain, contaminated the water; and that this was the sole cause of this fearful epidemic.

MANSFIELD, TIOGA CO., PA., October 9, 1875.

YELLOW FEVER IN THE SOUTH ATLANTIC SQUADRON IN 1874-5.

BY W. F. WAUGH, M.D.,

Assistant-Surgeon, U.S.N.

DURING the cruise of the U. S. S. *Monongahela* on the Brazil station, we were three times visited by yellow fever, losing one case at each time. These attacks occurred shortly after our arrival at Rio de Janeiro, from long cruises at sea, where the men had had no opportunities of obtaining fresh provisions, and had been confined to the ship for long periods.

The first peculiarity which arrested my attention in this disease was that the men did not come to sick-call. They lay down in some quiet corner while their messmates reported their illness to the surgeons. This at once impressed me with the gravity of the disease, for Jack is ever ready to besiege the doctor for an excuse from duty for any slight disorder.

Their only complaint at first was of severe frontal headache, soon followed by pains in the back and calves. The face had a dusky flush; the eyes were dull, the conjunctivæ muddy and slightly jaundiced; the skin dry and burning; the tongue coated, but clean in the centre and at the tip and edges. On inquiry, I found the bowels were confined, the appetite lost, though there was no nausea; and the urine was suppressed. Only an ounce could be obtained by the catheter, and this threw down nearly half of its bulk of albuminous precipitate. The pulse was 110, the axillary temperature 105° Fahr., slightly more in fatal cases, slightly less in those which recovered. Nausea and vomiting followed every attempt to administer medicines or food.

After the remission all the symptoms were aggravated, black vomit came on with uræmia, and the patients died in the greatest agony. The whole aspect of the disease struck me with a conviction that we had to do with something entirely different from anything I had ever seen before. At the same time we had cases of

malarial origin, differing in the absence of the peculiar tongue, the high temperature, and the urinary symptoms. These cases also gave way to the energetic use of quinine, while the true yellow fever was aggravated by every dose of it.

As soon as the diagnosis was established, our cases were sent ashore to a hospital, and every means used to prevent the spread of the disease among the crew. All articles used by the sick were destroyed, and the ship cleansed and thoroughly disinfected with every means at our command. Every effort was made to promote a healthy feeling among the crew, and to allay their apprehension. Our efforts were successful in the first two attacks; in neither of which were any cases developed after the first day the disease appeared. As to the third attack, I cannot speak positively, being down with fever myself at the time.

A neighboring man-of-war adopted the policy of keeping her patients on board for treatment. The result was disastrous, as ten cases developed successively, with nine deaths, and the progress of the disease was only stayed by removing the crew to the mountains. The ship was condemned, and had to be broken up.

The influence of negro blood was shown in one case. Two stewards accustomed to attend a different market from the rest, both temperate men, were seized on the same day with the same symptoms. The white man died, while the octoroon recovered.

The administration of quinine was in every case followed by injurious results. The stomach became more irritable, and the skin dryer. Even when administered per rectum, the effect was the same.

During my stay in the hospital of St. Sebastian I had an opportunity of observing many cases treated by the Brazilian physicians.

The patient is taken in the earliest stage and placed in a bed in a large, airy room. He is covered with blankets enough to keep up a slight perspiration, and is carefully watched to prevent him from uncovering any part of his body. No food or medicine is given, but the patient is allowed water *ad libitum*. The whole treatment consists in keeping the stomach quiet, and keeping up the action of the skin to relieve the kidneys. The great danger is from the anuria; and if the skin can be

made to supplement the action of the kidneys the patient is safe. I was assured that patients had been kept without food for seventeen days, before all danger was past. Under this treatment the fever steadily declines, the pains are relieved, the remission comes on soon, and the terrible agonies of the third stage are avoided. So comfortable is the patient that I have heard persons say they would rather have yellow fever, so treated, than a bad cold. Recovery is rapid, and leaves no sequelæ. The deprivation of food is not injurious in so short a fever, while its administration would be useless when the alimentary canal is incapable of digesting it.

This hospital has been organized about five years, and in that time has lost but two cases of yellow fever. Both of these were brought in during the third stage, after black vomit had occurred. This brilliant result is partly due to the newness of the buildings, which have not had time to become impregnated with disease-germs. At the Misericordia, in the same city, patients under treatment with other diseases are frequently attacked by yellow fever while within its walls. In none of the Brazilian hospitals are fever-patients secluded.

NOTES OF HOSPITAL PRACTICE.

SERVICE OF PROF. D. HAYES AGNEW, AT
THE UNIVERSITY HOSPITAL.

Reported by Dr. J. WM. WHITE.

CLUB-FOOT.

WE have here a child 1 year of age, who presents a deformity of the feet to which I wish to call your attention. You will notice that the heel is drawn upward, that the tendo Achillis is tense and prominent, and that the toes are turned inward. If the child were able to walk now, or were allowed to grow up in this condition, it would walk on the outside of its feet; and when such cases occur, as they not unfrequently do, we find that, for the protection of the bones underneath, a sac or bursa is formed and becomes filled with fluid, making a pad upon which the patient walks. You might at first suppose from mere inspection that there was some distortion of the bones here; but by palpation you would discover that this was not the case, but that their articulating surfaces did not bear the proper relation to one

another. The case is one of club-foot, of the variety known as equino-varus, and the double deformity is due to the action of the flexors of the toes, the adductor muscles, and the muscles of the calf, which at the same time draw the heel upward and the foot inward. In the normal condition the foot is balanced between certain sets of muscles, and maintained in its proper position, just as the spine is, by the muscular masses which lie on each side of it. The gastrocnemius and soleus, with the flexor longus digitorum and the flexor longus pollicis behind, drawing the heel upward, are antagonized by the tibialis anticus, the extensor longus digitorum, and the extensor proprius pollicis in front, elevating the toes. The tibialis anticus and tibialis posticus, adducting the foot, are counterbalanced by the peroneal muscles which abduct it. Now, if some of these muscles lose their power from paralysis, from disuse, or from injury, the foot of course loses its natural position, and is drawn strongly in one or the other of these directions, while in time its inter-osseous ligaments become elongated, thus adding greatly to the deformity.

The treatment consists in the division of the tendons of the muscles concerned in maintaining the malposition, which in this particular form of club-foot are the gastrocnemius and soleus, together with the tibials. It is sometimes necessary to divide not only the tendo Achillis but also the tendons of the tibialis anticus and extensor proprius pollicis; but at so early an age as this the former operation is usually sufficient. In dividing this tendon it is best, as a rule, to cut from below upward, and especially when it is broad and flattened and does not stand out prominently from the parts below. You thus avoid cutting directly in the direction of an important vessel, the posterior tibial artery. After the operation, the foot should be placed *at once* in its proper position, even if it is necessary to make a sub-luxation of some of the ligaments in order to do so. It should then be put in such an apparatus as I now show you, which admits of the movements of flexion and extension, abduction and adduction. The heel should be carefully brought down and retained there, and the apparatus should be removed and re-applied daily.

The time at which it is proper to operate in cases of congenital club-foot is best de-

termined by a consideration of the general development of the child. Some feet are round, dumpling-like, shapeless, with no salient points, and in such cases it is very difficult to fix them in the correct position without making such pressure as to cause intense pain, or even sloughing. I usually tell the parents to wait for a little while; and it is singular how much the whole contour and appearance of such feet may, and often do, change in a couple of months. If the child is teething, I never operate, preferring not to run the risk of adding another source of irritation to the one already existing. I am satisfied that our operations are frequently performed too early, and that if they were always postponed until the tenth or twelfth month we should, as a rule, have much better results.

POTT'S FRACTURE.

The patient whom you now see injured himself a few hours ago by falling or jumping from a train of cars which was in rapid motion. He sustained an injury of the right leg to which I wish to call your attention. On comparing this limb with its fellow, as he lies upon his back, we at once notice a marked difference. The right foot is strongly everted, the toes being turned outward and the outer border and the heel drawn upward. There is a marked prominence over the inner malleolus, which is, however, entirely immovable, and not directly implicated in the injury. The fibula is fractured at its lower fifth, a point where it is especially weak and slender, and where fractures often occur, even from a twist of the ankle, either the internal or external malleolus becoming a fulcrum over which the force is applied. The prominence which I have asked you to observe at the inside of the ankle is the marked and characteristic deformity of this form of fracture, and is caused by the partial displacement of the end of the tibia from the corresponding surface of the astragalus, the rupture or dislocation of the internal lateral ligament, and the projection of the inner malleolus inward beneath the integument, which you observe is made very tense by its pressure. This is due to the fact that when the fibula is broken there is no longer any resistance to the action of the peroneal muscles, which, arising from the head and shaft of the fibula, are inserted into the metatarsal bones of the little and great toes, and consequently act by evert-

ing the sole of the foot. The heel is at the same time drawn upward by the muscles of the calf. The deformity is best overcome by the employment of Dupuytren's splint, which is an inside or tibial splint, running from the knee to below the sole of the foot, and having opposite the ankle a large wedge-shaped pad with the base downward and resting against the internal malleolus. We now fasten the upper end of this splint by a few turns of a roller, taking care not to continue the bandage to within the neighborhood of the fracture; otherwise we should press together the two bones of the leg. Strong adduction is now made upon the foot with the view of throwing the broken ends of the fibula outward, the base of the pad being used as a fulcrum. When the displacement is reduced, the foot is fastened to the lower end of the splint by a figure-of-8 bandage. The condition of the parts should be carefully observed for the next few days, as the pressure made in bringing the bones into position is so great as sometimes to induce sloughing.

TRANSLATIONS.

MEASUREMENT OF THE INTRA-ARTICULAR PRESSURE IN THE KNEE-JOINT DURING LIFE (Dr. H. R. Ranke: *Centralblatt für Chir.*, No. 39, 1875).—A question of the manner in which permanent extension of the limb affects the intra-articular pressure has quite recently been raised, but no satisfactory answer to it has hitherto been given. The investigations of the subject which have been made have been carried out on the dead body; but some cases in which puncture of joints was performed have given Ranke the opportunity of studying the conditions which exist in the living. The trocar with which the joints were opened had a lateral orifice which was in connection with an open mercurial manometer, and the outer orifice of the canula could be kept open or shut, at pleasure, after the withdrawal of the stylet, so that the contents of the joint could flow out, or fluids could be injected into it. Extension of the limb was made by several methods, and counter-extension was obtained either by the weight of the body or by the use of a perineal band; but no difference in the action of the several appliances was observed. The measurements gave the fol-

lowing results. In recent (*i.e.*, from two to six days old) effusions of blood into the joint, when there were no apparent injuries of the ligamentous structures and when the limb was entirely extended, the mercury rose from 1.5 to 20 centimetres. The individual differences in size of the cavity of the joint explained the fact that the amount of pressure is not proportional to the amount of the contents of the articulation. When the limb is bent from complete extension to an angle of 30° , the pressure steadily diminishes, and, when flexion is continued beyond this angle, rises again to a point higher than that at which it previously stood. The action of the muscles of the part upon the intra-articular pressure could be most readily observed in the contraction of the quadriceps, and was found to cause an elevation of from 8 to 25 centimetres. When the effused blood was removed, the amount of pressure was diminished. If forced extension, by means of weights, was made, there was an increase of pressure which was constant although small in quantity, but the amount was always proportional to the pressure at the orifice, and became almost unnoticeable when the contents of the joint had been gradually removed.

From these observations it is concluded that when there is a positive intra-articular pressure during life, extension causes an increase of it; but when the pressure within the joint is at 0, in some cases extension caused a further depression of the manometer; while in the cases under 4 there was an increase. W. A.

EFFECT OF THE APPLICATION OF THE ACTUAL CAUTERY TO ANÆMIC TISSUES (*Le Mouvement Médical*, September 25, 1875).

—M. Laroyenne has been led by the employment of Esmarch's method in various surgical operations, and particularly in those connected with affections of the osseous system, to observe the result of the actual cautery on tissues deprived of blood by this method. He states that the cauterization under these circumstances is much more active and its effects incomparably more marked than when it is employed on a part the circulation of which is not suspended. At the moment of its application, however, its results are almost inappreciable, and may even give rise to serious error by their apparent insignificance. There is but little smoke or vapor produced, the skin

preserves its normal color or simply blanches slightly, and the extent and depth of the burns do not appear until the elastic band has been removed and the circulation re-established. This excessive action is of course due to the fact that the iron does not lose its heat so rapidly by contact with fluids which absorb it, and also to the circumstance that the exsanguine tissues are much better conductors of heat than those filled with blood and with various nutritive or pathological liquids.

It follows from these observations that we should employ cauterization under these conditions only with great care, but that in this manner, thanks to the temporary anæmia, we can obtain the rapid destruction of fungous growths or the profound modification of the osseous tissue which is often required as a complementary operation after the scooping out of dead bone or the extraction of a sequestrum.

J. W. W.

INFLUENCE OF REPEATED VENESECTIONS ON THE GASES OF THE BLOOD (*La France Médicale*, September 25, 1875).—M. Finkler reports the results of a series of experiments made with the view of determining the influence of the rapidity and volume of the blood-current on animal combustion. With the loss of blood the quantity of oxygen contained in the venous blood decreased very rapidly, whilst the quantity of carbonic acid slightly increased. The combustion of oxygen and the formation of carbonic acid seemed, within certain limits, to be absolutely independent of the rapidity of the blood-current. After the withdrawal of a third of the total amount of blood there was no perceptible diminution in the combustion of oxygen, and even the quantity of carbonic acid was but very slightly modified. These results seem to confirm the law enunciated by Pflüger, according to which the combustion of oxygen occurs only in the tissues.

J. W. W.

SALICYLIC ACID IN CATARRH OF THE BLADDER WITH AMMONIACAL FERMENTATION OF THE URINE (*Centralblatt für Chirurgie*, No. 31, 1875).—Paul Fürbinger reports four cases of catarrh of the bladder, with ammoniacal fermentation of the urine, in which salicylic acid was given in daily doses of about fifteen grains. The alkaline reaction and the odor soon disappeared from the urine, as did the bacteria, which were at once the origin and the

product of the fermentative action. The suppurative process was, however, not so readily checked. In septic fevers artificially produced in dogs by putrid infection, he has found salicylic acid equally beneficial in its action; but he does not believe it to be of much value in purely inflammatory febrile conditions. The acid was administered in suspension in mucilaginous mixture.

J. W. W.

TREATMENT OF PHLEGMONOUS PERIOSTITIS (Hénocque: *Centralblatt für Chir.*, 1875, No. 38; from *Gaz. Hebdom.*, 1875, No. 4).—From the experience which has been had in the treatment of the diseases of bone, it is hoped that the period of waiting until a sequestrum has been separated may be avoided by an early removal of the necrosed portions. The femur and the upper part of the humerus are the only exceptions to the rule that the portion of bone which is diseased should be removed as soon as a separation of the periosteum can be established. Subperiosteal resection should be practised as soon as possible when the larger portion of the diaphysis of a bone is bare, and if the disease has extended into an epiphysis or joint the operation must be more or less extensive in accordance with the destructive changes which have taken place.

W. A.

DIRECT ELECTRICAL IRRITATION OF THE HEART IN MAMMALS (Sellager: *Centralblatt für die Med. Wissen.*, 1875, No. 38; from *Wien. Akad. Sitz. Ber.*, 1874).—These investigations were made upon cats and dogs, and it was found that the first action of an induced current upon the exposed hearts of these animals was to cause a diminution of the blood-pressure, and that if the current was kept up for two or three minutes the heart ceased to contract at all,—that it was in fact dead. Immediately after the application of the irritant the rhythmical movements of the organ ceased, and there was only a tremulous motion of the muscular structures. The same phenomena occurred when the nervous apparatus of the heart was paralyzed by atropia or curara. The action of the constant current was the same as that of the induced: so that it must be concluded that electricity when applied directly to the organ is a true "cardiac poison," and that electrical irritation of the heart must be advised against as a very dangerous procedure.

W. A.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, NOVEMBER 13, 1875.

EDITORIAL.

PROFESSIONAL SECRETS.

THE case of Dr. Linton has already been fully detailed in the columns of this journal, but, as a very serious principle is involved, it seems right that further notice should be taken of it. Our readers will remember that the doctor, having been called to a woman suffering from abortion, attended without asking questions, but, two days after the miscarriage, was told by some neighbor that Mrs. — had had an operation performed on her. The fetus was removed by Dr. Linton, and preserved in alcohol. Without detailing again the unnecessary and unjustifiable indignities that were heaped upon Dr. Linton for not reporting this case to the authorities, it suffices to state that at present he is under bail to appear for misprision of felony, because he, "knowing a crime had been committed, had failed to notify the authorities," and because "he had destroyed evidence by removing the fetus." The last plea of the assistant district attorney is childish. No one but a pettifogging lawyer could perceive that preventing a fetus from being thrown out with the clots into the cesspool and preserving it in alcohol was destroying evidence. Owing to this "destruction of evidence," the *corpus delicti*, which in the ordinary course of events would have disappeared from the face of the earth, is now in good spirits, as, we presume, is also the magistrate in whose keeping it is.

His Honor Judge Briggs, before whom the case was brought by a writ of habeas corpus, decided against the prisoner, who was remanded for trial.

It is evident that Dr. Linton has in this

instance acted precisely as any other physician would have done, and that the question involved is whether it be the duty of a physician in the course of his practice to appeal to the authorities because he has had reason to suspect the commission of a crime. Underlying this question is another one: Is it the duty of the physician to betray professional secrets upon the witness-stand? In New York there is a provision of law "that no person duly authorized to practise physic and surgery shall be allowed to disclose any information which he may have acquired in attending any patient in a professional character, and which information was necessary to enable him to prescribe for such patient as a physician, or to do any act for him as a surgeon." The French Codex is even more imperative, making the disclosure of these professional secrets a penal offence, punishable with fine and imprisonment.

In the absence of any especial statute, probably the English law or custom would control our Pennsylvania courts. In England the decisions appear to be that the medical witness upon the stand is required to answer such questions as may be put to him, but not to volunteer any statements.

Justice and legality are very different things, but we have not to-day space to discuss the very wide question as to whether the English or the French law in this regard is the correct one. It seems, however, clear that if any physician is determined not to reveal professional secrets in this commonwealth, he must make up his mind to suffer for what he believes to be the right.

Essentially diverse from the point just discussed is that involved in the decision of Judge Briggs. The practice or study of law not being the profession of the editor of the *Times*, it appears somewhat presumptuous to discuss the question; but it seems to be a common-sense inference from the English law that a doctor should not be expected to inform on his patients. If

he be not allowed to volunteer testimony when on the stand in a criminal prosecution, much less should he be expected to volunteer the testimony to originate the prosecution. Whatever may be the law, there can be, in our opinion, no doubt as to what is the right. Rome holds inviolate the secrets wrung out at the confessional by the fear of eternal punishment, and has forced the law to recognize this secrecy; and the medical profession can certainly put down any attempt to make it atone for the serious defects of our detective police. The legal or judicial profession simply stultifies itself when it asks that the medical profession should betray the secrets brought forth by mortal peril, although it itself upholds and acts upon the theorem that the greatest villains ought to be defended in every possible way, even to taking advantage of the veriest quibbles concerning technicalities. As well ask a lawyer to reveal upon the witness-stand the secrets of his client, as to demand betrayal by the medical attendant. Yet Judge Briggs would punish as a criminal the doctor who does not volunteer such betrayal.

The life of a physician who should comply with the decision of our learned judge would not be an enviable one. The notes of his day's work might read somewhat as follows: "Mrs. S., aborted yesterday; inquire into circumstances, and report to police. Mr. J., with a chancre; to be reported for adultery. Miss S., confined; report to police, that her companion may be arrested. Mr. T., called with cut head; case of assault for police. Mr. D., debauch; case of drunkenness for central," etc., etc.

The thing is too preposterous to need discussion; and we are very glad that the Philadelphia County Medical Society passed a resolution authorizing their committee to employ counsel and to resist to the utmost this attempt to degrade the physician to the position of a spy and informer.

WHILST only the prospect of preventing a homicide or similar crime of magnitude about to be committed can ever justify a physician going to the police with knowledge acquired in the pursuit of professional duties, it is plainly not the duty of the doctor to cover up crime. Nothing should induce him to lend himself to such a procedure. In suspected homicide he should refuse to fill up the death-certificate, and, perhaps, notify the coroner; but here his duty ends. It is the province of the police to attend to the matter after this.

WE desire to call the attention of the editors of the *Boston Medical and Surgical Journal* to the fact that the *Medical Times and Gazette* and the *Philadelphia Medical Times* are different periodicals. We would be pleased to have them remember this in accrediting extracts. In a late issue (No. 17), on one page we appear as the *Medical Times and Gazette*, on the next page as the *Medical Times*.

THE system of preliminary examinations is now fairly established in the Medical Department of Michigan University. Out of one hundred and thirty-five applicants the present session, twelve were rejected.

LEADING ARTICLES.

THE CHOLERA EPIDEMIC OF 1873.*

BY joint resolution of Congress, adopted March 25, 1874, it was ordered that a medical officer of the army, in connection with the supervising surgeon of the Marine Hospital service, should ascertain the facts concerning the spread and mode of propagation of cholera as it occurred

* The Cholera Epidemic of 1873 in the United States.

(1) Introduction of Epidemic Cholera through the Agency of the Mercantile Marine.—Suggestions of Measures of Prevention. By J. M. Woodworth, M.D., Supervising Surgeon U.S. (Merchant) Marine Hospital Service.

(2) Reports prepared under the direction of the Surgeon-General of the Army. a. History of the Cholera Epidemic of 1873 in the United States. By Ely McClellan, M.D., Assistant-Surgeon U.S.A. b. History of the Travels of Asiatic Cholera. By John C. Peters, M.D., of New York City, and Ely McClellan, M.D., Assistant-Surgeon U.S.A. c. Bibliography of Cholera. By John S. Billings, M.D., Assistant-Surgeon U.S.A. Washington, Government Printing-Office, 1875.

in the epidemic of 1873 in the United States. The result of these investigations has been printed in the form of a bulky report, or rather series of reports, bound together in a closely-printed octavo volume of some 1050 pages.

The first part of this report has been written by Dr. Woodworth, the well-known supervising surgeon of the Marine Hospital service, whose contribution on the construction of hospitals, read before the Public Health Association at their meeting in this city last year, attracted considerable attention. In the brief space of about twenty pages, Dr. Woodworth undertakes to set forth the facts which establish the connection of the mercantile marine with the importation of cholera into the United States, and to suggest what, in the present state of our knowledge concerning the disease, may be done with a view to the prevention or limitation of future attacks. Cholera, it is believed, has always been brought to this country in ships, and consequently the question as to the proper method of its exclusion would be most properly discussed from the point of view which Dr. Woodworth takes. The propositions formulated by him from the mass of evidence collected by cholera-observers are clear and succinct, and are illustrated with just sufficient detail to make the reading of this part of the Report an easy and agreeable task.

That section of the Report which relates to the history of the cholera epidemic of 1873 in the United States, prepared by Dr. Ely McClellan, comprises a vast mass of information collected from all the States of the Union in which the epidemic prevailed, and consists largely of reports or letters from civil physicians in relation to the disease as it prevailed in their respective situations. These reports are arranged in the order of States, and are preceded by chapters on the clinical history and etiology of the epidemic of 1873, on the prevention of cholera, and on the origin of the epidemic cholera which reached the United States in 1873; and are followed by a chapter on the epidemic as it affected the United States Army.

This portion of the Report occupies between six and seven hundred pages of the volume, and, so far as the detailed reports from different localities are concerned, can scarcely be called light reading.

The chapters treating of the clinical history and etiology of the disease, especially the latter, contain much valuable information, conveyed in a very agreeable manner.

Dr. John C. Peters, of New York, well known for his researches in this direction, contributes to Dr. McClellan's portion of the work a history of the travels of Asiatic cholera in Asia and Europe, accompanied by a number of maps; and Dr. McClellan himself concludes this portion of the Report by describing the travels of the disease in North America.

Finally, upwards of three hundred pages of the volume are occupied with a bibliography, prepared by Dr. John S. Billings, U.S.A., Librarian of the Army Medical Museum. A rough guess places the number of references at certainly not less than eight thousand; a monument to the care and perseverance of the compiler.

To the ambitious practitioner, desirous of gaining fame by publishing an article on cholera,—say a new form of treatment,—we would urge the propriety of examining this bibliography. If he does not find that a dozen men, in half as many languages, have written much better articles on the same form of treatment, we shall be very much mistaken.

Contemplating this Government volume as a whole, we must confess our regret that it is not smaller, or, at least, that its different sections had not been separately bound. The admirable essays on the topics mentioned would be calculated, we think, to do much good if published in another form. We suppose, however, that the necessities of the case demanded this interstratification of the useful and the sweet. A picture from *Harper's Weekly* has been, apparently fortuitously, bound up with the text.

CORRESPONDENCE.

TO THE EDITOR OF THE PHILA. MEDICAL TIMES:

THE Northampton County Medical Society held its regular quarterly meeting at Bethlehem to-day, Dr. Amos Seigs, of Easton, President.

The paper of the day was unavoidably postponed, and in its place there was a discussion of a paper of a previous meeting, as there had been no time to discuss it when read. The paper was on "Placenta Prævia," by Dr. John Sandt, of Easton. Of the six cases

mentioned during discussion, four had been treated by partial displacement and version by the feet; the mother living in three instances; condition of the children not reported. Of the remaining two, in the one the placenta was perforated by the index-finger, and the child was born by the aid of a *vis a tergo* force—i.e., the hand of the physician on the abdomen—before the arrival of forceps. Mother and child both saved. In the other, the child actually became the after-birth, since the placenta was extruded first, followed by a living child.

The item of greatest interest, however, was the report of the Committee on the Enforcement of the Statute against Illegal Practice of Medicine (act of April 12, 1875). The committee had found that there were four in the county who in their judgment were practising illegally. These were duly notified. One replied that he was unaware of the law, and promised to stop until he could attend another course of lectures and try again for his degree. The remaining three made light of the matter, and were duly brought before a justice of the peace, and held in \$500 bail each for their appearance. Of these, one made application for an examination, which was granted. The court appointed a committee, who, after a fair examination, gave him the requisite certificate. The man had obtained his medical education in Germany. Another, an electrician, furnished a problem for that learned institution, the grand jury; and, from the questions asked of some of the witnesses, they seemed to be wrestling with the question whether electricity was a therapeutical agent. They evidently decided that it was not (one of them afterwards remarked, "You can neither put it in bottles nor in powders, so it can't be medicine"), and they ignored the bill—costs (about \$100) to the prosecution.

A true bill was found in the third case, and the trial of Alonzo W. Clemens in due time came before the Court of Quarter Sessions of Northampton County. A tough legal fight ensued, in which the defence tried to quash the indictment, and failed; showed that he had practised under the law of 1869, and hence had a vested right to continue, and failed; tried to prove the statute unconstitutional, and failed; tried to show the statute incomplete, with no punishment attached to the part he was charged with violating, and failed; and having proved that his qualifications to practise medicine consisted in commencing to study medicine at about seventeen, continuing for eighteen months, during which time he also attended a term of six months at one of our academical colleges, where he did not even study chemistry, and had a few weeks' experience on the hard benches of both of your medical institutions; had practised with this amount of study, for a few months, entering into partnership with his preceptor, who swore that at this time he considered the de-

fendant competent to practise *under instruction*; then he attended two courses of medical lectures, was duly examined, and plucked, on the strength of which he opened an office on his own responsibility.

Then the judge delivered his charge, in which he hinted strongly the way the jury should go, as shown by the evidence and as guided by the law. Whether they were hybrid or not, they acted mulishly and went the other way; their verdict being not guilty, and dividing the costs (some \$300).

A motion for setting aside the verdict and for a new trial has been made, but no decision as yet rendered.

The remainder of the session was occupied with business of local importance and statements of cases of minor interest. The Society adjourned to meet in Easton in January next.

To comment on the results of the work of the Committee would be useless after your editorials upon the subject. That it is a subject which demands attention we all admit. How to better the existing statutes, and (what is more difficult) to educate the mass of the people so that they will see in these laws a project for their own protection, and not a trade-union movement upon the part of the physicians, demands the earnest thought not only of the profession but also of every intelligent citizen in the commonwealth.

ZETS.

TO THE EDITOR OF THE PHILA. MEDICAL TIMES:

DEAR SIR,—I have read two letters published over the signature of "Caduceus" (one in the *Philadelphia Medical Times*, August 14, 1875, and the other in the *Medical Record*, October 2, 1875), and entirely agree with all that is therein written. I beg leave to add, the responsibilities as a Steward I have had, and may have again, to undertake. On account of the difficulty at remote posts of having a substitute ready to replace the medical officer at short notice, I have several times during my service been the only representative of the medical department at the post for short periods at a time, and have had to attend cases of child-birth, as well as the other duties of the department incident to a large garrison, which is more than the Regulations call for, but which custom and exigencies of the service demand of the Steward; for which the Government allows only half the pay of the Navy Apothecary, who has not the worry and responsibility that the Army Steward is obliged to be under.

Would it not be fair in Congress to allow us the same pay as the Navy Apothecary? or does the mere fact of being obliged to wear an enlisted man's uniform take away anything from our right to be paid in accordance with our greater responsibility, and the more extended information necessary to the proper

filling of the position? Has the proverb, "The laborer is worthy of his hire," become obsolete in the Government?

A HOSPITAL STEWARD.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, OCTOBER 14, 1875.

The PRESIDENT, DR. WM. PEPPER, in the chair.

(Continued from page 68.)

Fibro-adenoma papillare in the mucous membrane of the colon around the ileo-cæcal valve. By Dr. JOHN M. KEATING.

"I AM indebted for the specimen which I have the honor of presenting to you this evening, to Dr. Robert Cruice, under whose care the patient was from the 10th of August until her death.

"E. J., aged 32, school-mistress, native of Philadelphia, bright, intellectual, energetic by nature, engaged in duties which required her constant attention and involved no little amount of worryment and anxiety, always enjoyed good health. The family history, which I regret I am obliged to leave imperfect, states that she lost three brothers who had reached adult life, one from phthisis and two from some intestinal disease, which, as I learned from a non-professional member of the family who was present at all the post-mortems, resembled her own complaint as to location of disease and symptoms. Her mother died of 'consumption of the bowels;' though I believe there was no post-mortem to verify this statement.

"Eighteen months ago E. J. first complained of pain on motion in the right iliac fossa, which pain became so severe that her attention was drawn more particularly to its seat, and she recognized the presence of a small tumor. This soon increased in size, completely incapacitated her for work, and medical advice was for the first time sought. When seen by Dr. Cruice, on August 10, she was emaciated, anæmic to a degree, and could with great difficulty be moved from her recumbent position on account of a severe paroxysmal pain, radiating from the right iliac fossa down the nerve-trunks of the leg, and brought on by the slightest motion.

"The tumor at this time was half again as large as a closed hand, non-fluctuating, tympanitic on percussion, and excessively painful upon the slightest manipulation. The right leg was markedly oedematous, and the left also, but to a less degree. No rectal or vaginal examination was made. She had at this time profuse diarrhoea: passages small, thin,

watery, and offensive, yellow in color, and containing no blood. It may be stated that the patient was decidedly cachectic, and on this account a probability of carcinoma was suggested by a previous medical attendant. After some weeks the tumor appeared to soften at its most prominent point, and at once the attending physician suggested the propriety of cutting down and relieving the contents. This suggestion had been urged before by Dr. Hodge, who had attended the case, and who had introduced an exploring-needle without any result to throw light on the case. But no operation was allowed to be performed, and the case proceeded with no other treatment than liquid nourishment and opium for the relief of pain.

"Two days before death (which occurred on Friday) the swelling in the leg suddenly disappeared, and the projecting portion of the tumor gave place to a universal swelling of the lower portion of the abdomen. The patient gradually sank after this.

"Post-mortem, third day after death, in presence of Drs. Hodge, Harrison Allen, Robert Cruice, and John M. Keating. The body was emaciated to a degree, and signs of decomposition were fully established. An incision was made over the region of the tumor down to the inter-muscular fascia of the abdomen, and a quantity of pus, which had separated the muscular layers, made its appearance. The omentum and abdominal peritoneum were adherent to the tumor and the abdominal walls immediately around it. A few coils of the small intestine were firmly bound above and to the sides of the mass, but in other portions no evidences of peritonitis were detected. The tumor was nodulated, and comprised the whole caput coli, leaving alone the vermiform appendix, which was not diseased. The cæcum with its enclosed mass was firmly attached to the abdominal walls, and only after the intestine was opened could the opening which gave exit to the pus be discovered. A quantity of pus was still remaining within the cæcum. The uterus and ovaries were examined, and found healthy.

"Should this case prove to be one of encephaloid cancer, the interest of the case will be greatly augmented. In reading up the subject, I find that cancer of this portion of the colon is not rare (so it is stated by Reynolds); but in the table of cases of stricture of the colon in which colotomy was performed, I find but one mention as having been found on post-mortem undiagnosed,—a case of scirrhus of the bowel, with death two days after the operation (quoted by Harkins, from Monod's paper in the *Archives Générales*, 3d series, vol. ii.). The case was that of a female aged 25."

Dr. HARRISON ALLEN said that he was present at the post-mortem examination. There had evidently been an abscess, which, if the suspected deposition of cancer was

primary, was unusually interesting. The contents of the collection had travelled downwards, and finally made their appearance at the surface above Poupart's ligament. An eminent surgeon, who had seen the swelling at an early stage, pronounced it to be of ovarian origin. Dr. Hodge detected its purulent character later. As stated, the death was sudden, and, it was alleged, almost immediately succeeded the disappearance of the parietal tumescence. Dissection showed that the pus had been diffused between the abdominal muscles.

Dr. WILLIAM PEPPER asked Dr. Allen whether he did not regard the presence of the abscess as strongly indicative of inflammatory rather than cancerous origin.

Dr. ALLEN was inclined to think so, but the elements of what was thought to be a new growth, and the presence of this projection into the gut, together with the history of the case, appeared to support the views of those who had studied the case as one of cancer. There was no stricture of the bowel, nor was there any enlargement of the lymphatic glands. It may have been typhlitis. The specimen was referred to the Committee on Morbid Growths, which reported October 14, 1875.

Report of Committee on Morbid Growths:

"In the specimen presented by Dr. Keating, a number of sharply-defined nodules, polypoid growths, are situated upon the mucous membrane of the colon around the ileo-cæcal valve. These new growths, being arranged in a circular manner upon the inner wall, and of considerable dimensions, project into lumen of the intestinal canal, and have evidently given rise to a more or less complete stenosis at this place. The growths have mostly a narrow, some quite a thin base. Some of them have a smooth surface, but the majority are covered with numerous branching papillæ, and present a dendritic appearance when immersed in a liquid.

"Microscopically these neoplasms show an excessive development of the papillæ, which are covered with the ordinary columnar epithelium. The fibrous stroma of these papillæ is invaded by ingrowing, hypertrophied, tubular glands. These tubuli comprise the principal bulk of the growths. They are also lined with short columnar cells which are united together laterally. A well-defined tunica propria can generally be distinguished readily. The muscular layer and surrounding connective tissue are not invaded by any epithelial elements; there exists in the latter simply a hypertrophy and cellular infiltration, such as is readily accounted for by irritative processes. In the absence of any invasion of the adjacent structures and of anything like an alveolar type, your committee would designate these tumors, not as carcinomatous, but as adenomata, and, adopting the nomenclature of Klebs, as fibro-adenoma papillare."

REVIEWS AND BOOK NOTICES.

A TREATISE ON THERAPEUTICS, MATERIA MEDICA, AND TOXICOLOGY. By H. C. WOOD, M.D. Second Edition. J. B. Lippincott & Co., Philadelphia.

The first edition of Dr. Wood's work has already been accepted as one of the most complete on its subject, especially in regard to the physiological researches upon the action of drugs in which the last two or three decades have been so fruitful; standing, in fact, almost alone and entirely unsurpassed in this respect among works in the English language. The present edition contains several additions on subjects both of great physiological interest and practical importance; among which may be mentioned coffee and its congeners, tobacco, jaborandi, salicylic acid, cold, heat, and electricity.

Some of the former articles have been partially rewritten, but the chief alterations consist in the additions, so that we have but little to add to our former estimate of the book, which assigned to it a very high place among existing treatises, not only as a text-book, but as a fair and thorough, condensed statement of the present status of pharmacodynamics, and of rational therapeutics as founded thereon. The additions, of course, increase the ground covered, and make the present edition the most nearly complete work upon the subject known to the writer, who hopes to derive from its use as a text-book as much pleasure and profit as he has already done from the last.

R. T. EDES.

HARVARD UNIVERSITY, October 21, 1875.

A TREATISE ON HUMAN PHYSIOLOGY. By JOHN C. DALTON, M.D. Sixth Edition. Philadelphia, H. C. Lea, 1875.

Dr. Dalton's work upon Human Physiology is now too well known to need editorial comment. The present edition is stated in the preface to contain fifty per cent. more matter than did the previous one; the new material being chiefly confined to the two departments of physiological chemistry and the nervous system. The new chemical notation and nomenclature have also been introduced. A somewhat cursory examination of the chapters upon the nervous system has shown that they are well up to the time, and, in spite of the multiplying of physiological text-books, that of Dr. Dalton will, we believe, retain its popularity.

ON PARALYSIS FROM BRAIN-DISEASE. By H. CHARLTON BASTIAN. New York, D. Appleton & Co.

This little volume is founded upon the course of lectures published not long since by its author in the London *Lancet*. It is really a very good book, containing perhaps little that is absolutely new, but much that is

novel and much that has rarely, if ever, been brought together in a readable form. To those of our readers—and the class should embrace every general practitioner—who are desirous of understanding cerebral paralysis, we commend Dr. Bastian's effort most highly. Very few specialists will, we think, rise from its perusal without the feeling that the horizon of their vision has been enlarged.

GLEANINGS FROM EXCHANGES.

FEMORAL ANEURISM CURED BY DIRECT COMPRESSION WHILE THE PATIENT WAS TAKING ACTIVE EXERCISE (*The Boston Medical and Surgical Journal*, October 21, 1875).—Dr. Buckminster Brown reports a case of femoral aneurism occurring in a man æt. 38, and otherwise healthy. An extended trial was made of the treatment by rest and pressure, the man being kept upon his back ten months in all. The result on the whole was encouraging, but a cure had not been effected. The artery below the aneurism had become extremely small, and its pulsation was scarcely perceptible. The swelling had much diminished in size, had become hard, and its action was comparatively feeble. It was then decided to continue the application of pressure, but in such a form as to admit of locomotion. A wide, strong, firm leather belt was made, thoroughly padded, which was fastened tightly around the hips; to this was attached a strap passing from behind the trochanter to buckle over Poupart's ligament. A pad was adapted to the tumor, hard, oblong, and convex, with a block-tin back. This pad was held in position by the strap passing through loops to the buckles. By these means a very considerable amount of force could be applied. The straps having been adjusted, the patient was allowed to sit up and walk a short distance each day. He improved rapidly, and finally recovered completely, dying from peritonitis six years later.

A NEW RHINOPLASTIC OPERATION (*The Boston Medical and Surgical Journal*, October 21, 1875).—At the recent meeting of the British Medical Association, Dr. James Hardie, of Manchester, gave an account of a new rhinoplastic operation, which consisted in the substitution of the upper phalanx of the forefinger for the nasal bones and cartilages, so as to give the required nasal prominence. In the case of a young girl who had lost both nasal bones and cartilages, Dr. Hardie, after failure of other methods, bandaged the arm in such a position as to enable the forefinger to be laid and plastered upon the nasal cavity, in which position the finger was kept for about three months. Gradually the finger became attached to the cavity, and ultimately the upper phalanx was separated from the rest by the forceps. Dr. Hardie's first inten-

tion was to employ the finger merely as a substitute for the nasal bones and cartilages, and to lay over it flaps of skin from the face or arm in the usual manner; and to this plan he ultimately returned, although at one time he was so satisfied with its appearance as to think of using the phalanx itself as a substitute for the nose.

CASE OF SIMULATED PREGNANCY (*The Boston Medical and Surgical Journal*, October 21, 1875).—Dr. Richardson reports the case of a married woman, aged 39, who was sent to the lying-in hospital for confinement, supposed to be due in two or three days. She had had morning sickness, the abdomen was enlarged, and there was milk in the breasts. She had been unwell every month through the pregnancy, although the show had been very slight. A vaginal examination discovered a uterus of the normal size. Deep pressure over the liver showed it to be much enlarged, nodular, firm. Ascites was present. There had been no jaundice, and thus far no pain. She had had five or six children, and thought she had again had every symptom of pregnancy. Four months later there was an autopsy, revealing disease of the liver.

TREATMENT OF CASES OF LABOR WITH CONTRACTED PELVIS (*The Medical Record*, October 9).—At a recent meeting of the New York Academy of Medicine, Dr. Isaac E. Taylor defined the simple, flat, non-rachitic pelvis as one in which the deformity is at the superior strait alone; and the uniformly contracted pelvis as one which exactly comports with the word used, and is uniformly smaller than normal. The variety is believed to be much more common than is generally supposed, and is to be regarded as the real cause of delayed delivery in many cases of so-called tedious labor. The conclusions arrived at, with regard to the management of these two classes of cases, were that in the simple, flat, non-rachitic pelvis the forceps should first be resorted to, and if found impossible to effect a delivery by this means, then resort to version; while in the uniformly contracted pelvis the forceps should be employed, and in case the operator fails, then resort must be had to craniotomy or cephalotripsy. Dr. Taylor argued that in these cases operative interference should not be delayed, as urged by many obstetric writers, until the child dies, but should be undertaken early.

IODIDE OF STARCH AS AN ANTIDOTE (*The Doctor*, October 1, 1875).—Prof. Bellini, of the Florence Institute, has lately submitted to the Royal Medical Society of that city a memoir (which appears in full in the September number of *Lo Sperimentale*) in which he recommends iodide of starch as an antidote and eliminant. As an antidote it is first of all of value in poisoning by sulphuretted hydrogen and other sulphur compounds, alkaline and earthy, also in poisoning produced by caustic alkalies and ammonia; but in these

cases it should only be used until acid drinks can be procured. In the next place it is recommended in poisoning by those alkaloids to which tincture of iodine has been considered an antidote; the iodide of starch is far less irritating. As an eliminant, Prof. Bellini says it may often be used instead of iodides, bromides, chlorides, and alkaline hyposulphites to remove mercury or lead from the system. It is not pretended to be superior to these, but is more agreeable to take, and perhaps as effective. Children will readily take it in the form of syrup. When used as an antidote, it should be followed, at a proper interval, by an emetic.

EXCISION OF THE KNEE (*Dublin Journal of Medical Science*, October, 1875).—Mr. P. G. Hayes reports two cases of excision of the knee-joint in which there was progressive articular disease resulting from injury, and not from any constitutional fault, advancing with great slowness and with a total absence of suppuration. He calls attention to these points as indicating the propriety of excision, and describes the operation thus. Moderately flex the leg upon the thigh, and carry an incision across the ligamentum patellæ from the posterior edge of one femoral condyle to a corresponding point on the other; of course, when the limb is extended, the incision will form a curve convex downwards. Remove the patella, and saw off no more of femur or tibia than is absolutely necessary, but pare away every trace of articular cartilage, and remove as completely as possible diseased synovial membrane and crude formations. It is a difficult matter to overcome the tendency which the lower end of the femur has to project on a plane in front of the greater part of the upper end of the tibia, and an outward bowing of the limb has also to be guarded against; but this may be done by the employment of a splint which Mr. Hayes figures, and which consists of two concave pieces of wood, —one to receive and fit the posterior surface of the leg from the upper part of the calf to within two and a half inches of the ankle, and the second to receive the posterior surface of nearly the lower two-thirds of the thigh, —the two portions of wood being connected behind the popliteal region by a strong flat piece of steel, with an oblique step in it, so as to keep the leg portion of the splint one inch in advance of the thigh portion. The limb should be fastened in its proper position in this splint, and encased, with the exception of the knee, in a plaster bandage.

In one of Mr. Hayes's cases the wound united by adhesions without a drop of pus having formed, and the patient was able to get out of bed in three weeks. In the other case suppuration was very slight, and convalescence nearly as rapid.

CAUSTIC AND ANÆSTHETIC EFFECTS OF CARBOLIC ACID (*Richmond and Louisville Medical Journal*, October, 1875).—Dr. Wm.

H. Doughty, after an inquiry into the existing evidence, comes to the conclusion that the properties of carbolic acid render it not only a safe and reliable local anæsthetic, but also one which should be employed in preference to the usual frigorific mixtures, ether-spray, rhigolene, etc., as it thoroughly anæsthetizes the part without disturbing its subsequent nutrition, and without being followed by any inflammatory reaction. In reference to its caustic action he reiterates the conclusions already reached by other observers,—that carbolic acid is a powerful and penetrating caustic, that its action upon the tissues results in their mummification rather than their destruction, and that, after intense action of the acid, the individual tissue-elements can still be distinctly recognized in the eschar. In order to obtain the anæsthetic effect, and, at the same time, avoid the caustic action, the part to be cut should be soaked in a watery solution of the acid, one part to twenty or weaker, for about half an hour. This seems so to change the absorbing power of the tissues as to allow the application of the pure acid without caustic or injurious effect.

DIABETES MELLITUS IN A GIRL AGED SEVEN YEARS (*Dublin Journal of Medical Science*, October, 1875).—Dr. Jensen reports (*Ugeskrift for Læger*) a case of diabetes mellitus occurring in a girl seven years of age, with a healthy family history, except that her father was intemperate at the time conception took place. She had been active and strong, but began to lose flesh, and suffered from thirst and frequent micturition. The urine had a specific gravity of 1036, was free from albumen, but contained eight per cent. of sugar. On a restricted diet she improved greatly, and ultimately felt so much better that she was allowed to disregard all dietetic regulations, upon which the symptoms developed afresh and with great rapidity, and she died, after a total illness of five months.

RETROVERSION OF THE UTERUS IN THE SIXTH MONTH OF PREGNANCY—FORCIBLE REDUCTION—PERITONITIS—RECOVERY.—Dr. Patrick Booth (*Southern Medical Record*, October, 1875) reports the case of a woman æt. 26, in her third pregnancy, who, about the sixth month, had extreme retroversion of the uterus, with so much urinary and rectal trouble that it became necessary to relieve her at once. The hand was introduced into the vagina, and the fundus was forcibly carried upwards. This produced relief, but about ten hours afterwards she aborted, and the following day peritonitis was developed. She was treated with turpentine stupes, opium, and quinine, and finally recovered.

CASE OF DOUBLE VAGINA AND UTERUS (*Chicago Medical Journal and Examiner*, October, 1875).—Dr. E. A. Hoadley reports the case of a double uterus and vagina, with pregnancy of the right uterus, and delivery through the left vagina after a protracted labor.

MISCELLANY.

HOSPITAL OUTLINES: SKETCHES AND PORTRAITS.

[Written by a patient in an Edinburgh Hospital.]

PART II.—PORTRAITS.

I. A SURGEON.

His brow spreads large and quiet, and his eye
Is deep and bright, with steady looks that
still;

Soft lines of tranquil thought his face fulfil;
His face at once benign, and proud, and shy.

If envy scout, if ignorance decry,
His faultless patience, his unyielding will,
Beautiful gentleness and splendid skill,
Innumerable gratuities reply.

His wise, rare smile is sweet with certainties,
And seems in all his patients to compel
A love and faith that failure cannot quell.

They hold him for another Herakles,
Warring with Custom, Prejudice, Disease,
As once the son of Zeus with Death and Hell.

II. A STUDENT.

A little black man, admirably neat,
Extremely "gentleman" from head to foot,
All glossy hat, white shirt, and shiny boot,
Gold links and chain, and kerchief smelling
sweet.

He soaks his hair in water till the curl
Peculiar to his race will smooth away,
And visits his moustaches day by day,
Though yet, in this respect, a very girl.

His traits?—resentful and suspicious vanity,
Showy dexterity, logical humanity,
Thin brilliance, commonplace intelligence,

And, over all, unquenchable, immense,
Alert to smile and bow, to watch and wait,
An egotism making these things great.

III. STAFF-NURSE: OLD STYLE.

The supreme poets of the commonplace,
George Eliot and Rembrandt—only these
Could paint her all to you: experienced
ease,

And antique liveliness, and ponderous grace,

The sweet old roses of her sunken face,
The depth and motive of her sly gray eyes,
The broad Scots tongue that flatters, scolds,
defies,

The thick Scots wit that fells you like a mace.

These thirty years has she been nursing here,
Some of them under Syme, her hero still.
Much is she worth, and even more is
made of her.

Patients and students hold her very dear.

The doctors love her, tease her, use her
skill.

They say "The Chief" himself is half
afraid of her.

IV. LADY PROBATIONER.

This is her picture:—Seven-and thirty years;
A Roman nose, a dimpling double chin,
And dark, shy eyes, if ignorant of sin,
Not unacquainted, it would seem, with tears;

A comely shape; a slim, high-colored hand,
Graced, rather oddly, with a signet-ring;
A bashful air becoming everything;
A well-bred silence always at command.

Her plain print gown, prim cap, and bright
steel chain

Look out of place on her, and I remain
Absorbed in her, as in a pleasant mystery.

Quick, skilful, quiet, soft in speech and touch—
"Do you like nursing?" "Yes, sir, very
much."

Do you not guess (with me) she has a his-
tory?

V. STAFF-NURSE: NEW STYLE.

Blue-eyed and bright of face, but waning fast
Into the sere of virginal decay,
I view her as she enters, day by day,
As a sweet sunset almost overpast.

Kindly and calm, patrician to the last,
Superbly falls the gown of sober gray,
And on her chignon's elegant array
A cap receives the impress of her caste.

She talks Beethoven, frowns disapprobation
At Balzac's name, and sighs at Madame
Sand's,

Knows that she has exceeding pretty hands,
Speaks Latin words with due accentuation,
And gives at need, as one who understands,
A draught, a judgment, or an exhortation.

VI. A SCRUBBER.

Behold her! Gaunt, and in her hard sad face,
With flashes of the old fun's animation,
The fixed and somewhat peevish resigna-
tion

Left of a past where trouble waxed apace.

Apace indeed! Her "man," before he died,
Saw seven of their children pass away,
But never knew the little lass at play
Out on the green—her joy, her hope, her pride.

Her kin dispersed, her friends forgot and gone,
All simple faith her honest Irish mind,
Scolding her spoiled wee saint—she labors on,

Telling her dreams, taking her patient's part,
Trailing her coat sometimes!—and you
shall find

No rougher, quainter speech, no kinder heart.

VII. A PATIENT.

John Gallagher—"mad Jack"—from Donegal,
Aged five-and-forty; reaper, shearer, sinker,
Adores Saint Blackthorn, is a furious
drinker,

And, to the priest, a very sheep withal;

Has tramped through Britain, can the route
recall;

Believes in ghosts, but in his way 's a thinker;
Once threw a tinker's baby at the tinker;
Holds Willie Wallace first of heroes all.

Fell, eighteen months ago, some thirty feet,
Smashing his shin. The cure's almost complete,

And lusty still, save when the surgeon eyes
him.

He like a collier swears, prays like a child,
Roars like a bison, laughs like something
wild,

And makes us all like, pity, and despise him.

VIII. A VISITOR.

Her little face is like a walnut-shell
With wrinkling lines; her soft white hair
adorns

Her either brow in quaint straight curls, like
horns,

And all about her clings an old sweet smell.

She wears prim stuffs and puritanic shawls,
Her bonnets might have well been born on
her.

Can you conceive a fairy godmother
Devoted to conventicles and calls?

In snow or shine, from bed to bed she runs,
Her mittened hands, that always give, or
pray,

Bearing a sheaf of tracts, a bag of buns:

All twinkling smiles and texts and pious tales,
A wee old maid that sweeps the Bride-
groom's way,

Strong in a cheerful trust that never fails.

IX. CHILDREN: PRIVATE WARD.

Here in this dim, dull, double-bedded room

I am the father of a brace of boys,
Ailing, but apt for every sort of noise,
Bedfast, but brilliant yet with healthful bloom.

Roden, the Irishman, is "sie-ven past,"
Blue-eyed, snub-nosed, and chubby-fair of
face.

Willie's but six, and seems to like the place,
A cheerful little collier to the last.

They eat and laugh and sing and fight all day,
All night they sleep like dormice. See them
play

At Operations—Roden, the Professor,

Saws, lectures, takes the vessels up, and ties:
Willie, self-chloroformed, with half-shut eyes,
Holding the limb and moaning—Case and
Dresser.

WILLIAM ERNEST HENLEY.

ROYAL INFIRMARY, EDINBURGH.

DR. EDWARD WARREN-BEY.—The friends of this gentleman will regret to hear that, in consequence of repeated attacks of ophthalmia, he has been compelled to resign his position as Chief Surgeon of the Egyptian Army. Dr. Warren's advancement in the East was exceptionally rapid, and we learn that the Khedive parted from him with great reluctance. Yielding to the solicitations of many friends, Dr. Warren has settled as a general practitioner in Paris, where his talents and experience cannot fail to command success. The French authorities have already accorded to him the proper authorization, without demanding either fee or examination,—a very distinguished compliment in itself, and one that has not been paid to any other foreign practitioner for many years.

THE artificial eyes made by L. Mueller, advertised in this journal by Dr. Theo. Roth, are remarkable for their perfect imitation of nature. They are said to be free from lead and irritant materials.

DR. S. WEIR MITCHELL has returned from Europe and resumed practice.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM OCTOBER 24, 1875, TO NOVEMBER 6, 1875, INCLUSIVE.

EDWARDS, L. A., SURGEON.—Granted leave of absence for six months, on Surgeon's Certificate of Disability. S. O. 223, A. G. O., November 4, 1875.

GREENLEAF, C. R., ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon Dickson, assigned to duty as Post-Surgeon at Nashville, Tenn.

WOODHULL, A. A., ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon Delany, assigned to duty at Oglethorpe Barracks, Savannah, Ga. S. O. 156, c. s., Department of the South.

BROWN, J. M., ASSISTANT-SURGEON.—Assignment to duty at Fort Wood, New York Harbor, revoked, and assigned to duty as Post-Surgeon at Fort Wadsworth, New York Harbor. S. O. 213, Military Division of the Atlantic, October 22, 1875.

MONROE, F. LE B., ASSISTANT-SURGEON.—Granted leave of absence to December 31, 1875, and his resignation accepted by the President, to take effect December 31, 1875. S. O. 222, A. G. O., November 2, 1875.

DELANY, A., ASSISTANT-SURGEON.—Assigned to duty at McPherson Barracks, Atlanta, Ga. S. O. 156, c. s., Department of the South.

CLEARY, P. J. A., ASSISTANT-SURGEON.—Granted leave of absence for twenty days. S. O. 207, Department of the Missouri, October 27, 1875.

DICKSON, J. M.—When relieved by Assistant-Surgeon Woodhull, assigned to duty at Huntsville, Ala. S. O. 156, c. s., Department of the South.

BYRNE, C. B., ASSISTANT-SURGEON.—Assigned to duty at Fort Brown, Texas. S. O. 201, Department of Texas, October 23, 1875.

SKINNER, J. O., ASSISTANT-SURGEON.—Granted leave of absence for two months, and on its expiration to report to the commanding officer, Yorkville, South Carolina, for duty as Post-Surgeon. S. O. 33, Department of the South, October 23, 1875.

COMEGYS, E. T., ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon Brown, assigned to temporary duty at Fort Hamilton, New York Harbor. S. O. 213, c. s., Military Division of the Atlantic.